

CLAIMS

What is claimed is:

1. A scroll machine comprising:

a first scroll member having a first spiral wrap extending from a first end plate;

a second scroll member having a second spiral wrap extending from a second end plate;

a housing for supporting said second scroll member for orbital movement with respect to said first scroll member, said second scroll member being positioned with respect to said first scroll member such that said first and second spiral wraps intermesh with one another so that orbiting of said second scroll member with respect to said first scroll member will cause said wraps to define moving fluid chambers.

a flange extending from said first scroll member, said flange defining a mounting bore extending through said flange between a first side of said flange and a second side of said flange; and

an axially compliant mounting structure extending through said bore to secure said first scroll member to said housing, said axial compliant mounting structure defining a first clearance adjacent said first side of said flange and a second clearance adjacent said second side of said flange, said second clearance being greater than said first clearance.

2. The scroll machine according to Claim 1 wherein said axially compliant mounting system comprises a bushing disposed within said mounting bore and a bolt extending through said bushing.

3. The scroll machine according to Claim 2 wherein said first side of said flange is disposed away from a tip of said first spiral wrap and said second side of said flange is disposed toward said tip.

4. The scroll machine according to Claim 2 wherein said first side of said flange is disposed toward a tip of said first spiral wrap and said second side of said flange is disposed away from said tip.

5. The scroll machine according to Claim 2 wherein said bushing has a stepped outer surface to define said first and second clearance between said bushing and said mounting bore.

6. The scroll machine according to Claim 5 wherein said first side of said flange is disposed away from a tip of said first spiral wrap and said second side of said flange is disposed toward said tip.

7. The scroll machine according to Claim 5 wherein said first side of said flange is disposed toward a tip of said first spiral wrap and said second side of said flange is disposed away from said tip.

8. The scroll machine according to Claim 5 wherein said stepped outer surface is defined by a small annular portion disposed between two large annular portions.

9. The scroll machine according to Claim 8 wherein said first side of said flange is disposed away from a tip of said first spiral wrap and said second side of said flange is disposed toward said tip.

10. The scroll machine according to Claim 8 wherein said first side of said flange is disposed toward a tip of said first spiral wrap and said second side of said flange is disposed away from said tip.

11. The scroll machine according to Claim 2 wherein said bolt has a stepped outer surface to define said first and second clearance between said bushing and said bolt.

12. The scroll machine according to Claim 11 wherein said first side of said flange is disposed away from a tip of said first spiral wrap and said second side of said flange is disposed toward said tip.

13. The scroll machine according to Claim 11 wherein said first side of said flange is disposed toward a tip of said first spiral wrap and said second side of said flange is disposed away from said tip.

14. The scroll machine according to Claim 2 wherein said mounting bore has a stepped inner surface to define said first and second clearance between said mounting bore and said bushing.

15. The scroll machine according to Claim 14 wherein said first side of said flange is disposed away from a tip of said first spiral wrap and said second side of said flange is disposed toward said tip.

16. The scroll machine according to Claim 14 wherein said first side of said flange is disposed toward a tip of said first spiral wrap and said second side of said flange is disposed away from said tip.

17. The scroll machine according to Claim 2 wherein said bushing has a stepped inner surface to define said first and second clearance between said bushing and said bolt.

18. The scroll machine according to Claim 17 wherein said first side of said flange is disposed away from a tip of said first spiral wrap and said second side of said flange is disposed toward said tip.

19. The scroll machine according to Claim 17 wherein said first side of said flange is disposed toward a tip of said first spiral wrap and said second side of said flange is disposed away from said tip.

20. The scroll machine according to Claim 1 wherein said axially compliant mounting system comprises a bolt extending through said mounting bore.

21. The scroll machine according to Claim 20 wherein said first side of said flange is disposed away from a tip of said first spiral wrap and said second side of said flange is disposed toward said tip.

22. The scroll machine according to Claim 20 wherein said first side of said flange is disposed toward a tip of said first spiral wrap and said second side of said flange is disposed away from said tip.

23. The scroll machine according to Claim 20 wherein said bolt has a stepped outer surface to define said first and second clearance between said bolt and said bore.

24. The scroll machine according to Claim 23 wherein said first side of said flange is disposed away from a tip of said first spiral wrap and said second side of said flange is disposed toward said tip.

25. The scroll machine according to Claim 23 wherein said first side of said flange is disposed toward a tip of said first spiral wrap and said second side of said flange is disposed away from said tip.

26. The scroll machine according to Claim 23 wherein said housing defines a counter-bore, said stepped outer surface of said bolt extending into said counter-bore.

27. The scroll machine according to Claim 26 wherein said first side of said flange is disposed away from a tip of said first spiral wrap and said second side of said flange is disposed toward said tip.

28. The scroll machine according to Claim 26 wherein said first side of said flange is disposed toward a tip of said first spiral wrap and said second side of said flange is disposed away from said tip.

29. The scroll machine according to Claim 20 wherein said mounting bore has a stepped inner surface to define said first and second clearance between said mounting bore and said bolt.

30. The scroll machine according to Claim 29 wherein said first side of said flange is disposed away from a tip of said first spiral wrap and said second side of said flange is disposed toward said tip.

31. The scroll machine according to Claim 29 wherein said first side of said flange is disposed toward a tip of said first spiral wrap and said second side of said flange is disposed away from said tip.

32. The scroll machine according to Claim 29 wherein said housing defines a counter-bore, said bolt extending into said counter-bore.

33. The scroll machine according to Claim 32 wherein said first side of said flange is disposed away from a tip of said first spiral wrap and said second side of said flange is disposed toward said tip.

34. The scroll machine according to Claim 32 wherein said first side of said flange is disposed toward a tip of said first spiral wrap and said second side of said flange is disposed away from said tip.

35. The scroll machine according to Claim 1 wherein said first side of said flange is disposed away from a tip of said first spiral wrap and said second side of said flange is disposed toward said tip.

36. The scroll machine according to Claim 1 wherein said first side of said flange is disposed toward a tip of said first spiral wrap and said second side of said flange is disposed away from said tip.